What is claimed is:

1. A method for supplying *in vivo* a peptide that binds an opioid receptor or that interferes with binding of substance P to its receptor, comprising the steps of

(a) transducing myogenic cells with DNA encoding the peptide, such that the myogenic cells express the peptide, and then

(b) administering the myogenic cells to a patient so that the peptide is produced *in vivo*.

2. The method of claim 1, wherein the peptide is selected from the group consisting of an opioid peptide, a polypeptide that binds substance P, and a substance P analog.

3. The method of claim 1, wherein the myogenic cells are selected from the group consisting of myoblasts, myotubes, and muscle fiber cells.

4. The method of claim 1, wherein the myogenic cells are harvested from skeletal muscle tissue of the patient.

5. The method of claim 1, wherein the myogenic cells are harvested from skeletal muscle tissue of a normal donor.

6. The method of claim 4, wherein the skeletal tissue is stimulated before harvesting to produce a reservoir of satellite myoblast cells.

7. The method of claim 4, wherein the harvested myogenic cells are processed to produce a purified sample of myoblast cells.

8. The method of claim 1, wherein the transduced myogenic cells are cultured to produce a sample of

transduced myogenic cell progeny comprising at least 1 billion cells.

9. The method of claim 1, wherein the peptide is an opioid peptide.

10. The method of claim 9, wherein the opioid peptide is selected from the group consisting of ß-endorphin, α-endorphin, gamma-endorphin, delta-endorphin, Met sup 5, and enkephalin.

11. The method of claim 1, wherein the peptide is a polypeptide that binds substance P.

12. The method of claim 1, wherein the peptide comprises the sequence Phe-Phe-Gly-Leu-Met.

13. The method of claim 1, wherein the DNA comprises two nucleotide sequences, each coding for the peptide, and a segment separating the two nucleotide sequences, wherein the segment codes for a cleavage site.

14. The method of claim 1, wherein step (b) comprises administering the myogenic cells by intramuscular injection.

15. The method of claim 14, wherein the myogenic cells are injected into a paraspinal muscle of the patient.

16. The method of claim 14, wherein the myogenic cells are injected into a levator scapulae muscle of the patient.

17. The method of claim 14, wherein the myogenic cells are injected into a neck muscle of the patient.

18. The method of claim 1, wherein large chondroitin-6-sulfate proteoglycan is administered with the myogenic cells.

19. The method of claim 1, wherein insulin is administered with the myogenic cells.

20. The method of claim 1, further comprising the step of administering an immunosuppressant to the patient.

21. A method for continuously supplying an opioid receptor-binding peptide *in vivo*, comprising the steps of

(a) transducing a plurality of myogenic cells, at least some of which contain (i) a gene that codes for the peptide and (ii) a flanking region associated with the gene under conditions conducive to homologous recombination, with DNA that comprises a promoter and a segment that is homologous to the flanking region;

(b) selecting among the plurality for myogenic cells wherein the promoter and the gene are functionally linked;

(c) multiplying the myogenic cells selected in step (b) to produce progeny cells; and

(d) administering the progeny cells to a patient, such that the cells continuously produce the peptide.

22. A composition for supplying a peptide *in vivo* that binds to an opioid receptor or that interferes with binding of substance P to its receptor, comprising (i) myogenic cells that contain heterologous DNA encoding the peptide, such that the myogenic cells express the peptide, and (ii) a pharmaceutically acceptable carrier.

23. The composition according to claim 22, wherein the heterologous DNA comprises a structural gene for the peptide and a promoter.

24. The composition of claim 23, wherein the heterologous DNA comprises multiple copies of a gene for the peptide.

25. The composition of claim 22, wherein the peptide is an opioid peptide.

26. The composition of claim 25, wherein the opioid peptide is selected from the group consisting of ß-endorphin, α-endorphin, gamma-endorphin, delta-endorphin, and Met sup 5.

27. The composition of claim 25, wherein the opioid peptide is selected from the group consisting of ß-endorphins and enkephalins, and wherein the heterologous DNA comprises a promoter for an endogenous structural gene encoding the peptide.

28. The composition of claim 22, wherein the peptide is a polypeptide that binds substance P.

29. The composition of claim 22, wherein the peptide is a substance P analog comprising the sequence -Phe-Phe-Gly-Leu-Met.

30. The composition of claim 22, further comprising large chondroitin-6-sulfate proteoglycan.

31. The composition of claim 30, wherein the large chondroitin-6-sulfate proteoglycan is under-sulphated.

32. The composition of claim 22, further comprising insulin.